Supplementary Table 2. Characteristic of late life risk models for the general population

Study sample	Sample size	Outcomes	Follow-up	Baseline age	Number of events	Model	Sensitivity (%)	Specificity (%)	PPV (%)	NPV (%)	Accuracy (%)	AUC
Late life risk models for the general population												
Leipzig Longitudinal Study of the Aged (LEILA 75+)[1]	530	dementia	Mean 5.6 years	⩾75 (mean 80.6)	88	RCI SIDAM (mean interval length between T1 and T2 was 1.6 years) +Regression						0.69
Honolulu-Asia Aging Study[2]	1611	dementia	3 years	71 – 93 (mean 76.1)	52	CASI total score						0.74
						CASI semantic memory score						0.50
						CASI episodic memory score						0.73
						CASI attention score						0.57
						CASI concentration/mental manipulation score						0.51
						CASI orientation score						0.65
						CASI visual construction						0.54
						CASI abstraction and judgment						0.52
						CASI list-generating fluency						0.70
						CASI language						0.59
			3 to 6 years			CASI total score						0.63
						CASI semantic memory score						0.49
						CASI episodic memory score						0.66
						CASI attention score						0.51
						CASI concentration/mental manipulation score						0.53

Supplementary Table 2. Characteristic of late life risk models for the general population

Study sample	Sample size	Outcomes	Follow-up	Baseline age	Number of events	Model	Sensitivity (%)	Specificity (%)	PPV (%)	NPV (%)	Accuracy (%)	AUC
						CASI orientation score						0.50
						CASI visual construction score						0.58
						CASI abstraction and judgment score						0.56
						CASI list-generating fluency score						0.58
						CASI language score						0.48
						subjective memory complaint						0.62
						CASI episodic memory score, subjective memory, CASI visual construction score						0.71
						age, education, CASI episodic memory score, subjective memory, CASI visual construction score						0.73
The Singapore Longitudinal Ageing Study (SLAS)[3]	957	neurocognitive disorders	5 years	>55 years	72	age, education, depression, heart disease, social and productive activities and MMSE score	65.3	67.0			66.9	0.72
						age, gender, education, depression, heart disease, social and productive activities and MMSE score	65.3	67.0			66.9	0.72
						age, gender, education, heart disease, physical activities score	61.1	69.3			68.7	0.70
						age, gender, education, current or ex-smoker, heart disease, depression, physical activities score	69.4	64.6			65.0	0.71
Vienna TransDanube Aging	478	AD	2.5 years	75 – 76 (mean 75.8)	90	IDSR-7, Animal Naming, TMT-B						0.83

Supplementary Table 2. Characteristic of late life risk models for the general population

Study sample	Sample size	Outcomes	Follow-up	Baseline age	Number of events	Model	Sensitivity (%)	Specificity (%)	PPV (%)	NPV (%)	Accuracy (%)	AUC
(VITA) Study[4]												
						IDSR-7, Animal Naming						0.83
The Osaki – Tajiri Project[5]	258	dementia	5 years	⩾65	12 AD, 5 AD+CVD, 5 VaD, 2 LBD, 4 other	CASI recent memory (3-Word delayed Recall), CASI word fluency, TMT-B, CASI abstraction and judgment	93.0	66.0				0.88
						MMSE	82.0	65.0				0.81
						CASI recent memory (3-Word delayed Recall), CASI word fluency, TMT-B, CASI abstraction and judgment (Only people aged 70-79 years)						0.85
						MMSE (Only people aged 70-79 years)						0.67
						CASI recent memory (3-Word delayed Recall), CASI word fluency, TMT-B, CASI abstraction and judgment (AD or AD+VaD)						0.88
						MMSE (AD or AD+VaD)						0.80
						Word not recalled in ADAS, Rey Figure Delay Recall						0.89
Sub-sample from the Berlin Aging Study[6]	187	AD	2-4 years	⩾70 (mean 79.6)	15	MMSE						0.68
						Attention and Executive Function Factor (TMT-B, Digit Letter Test, DSST, Identical Pictures Test)						0.86

Supplementary Table 2. Characteristic of late life risk models for the general population

Study sample	Sample size	Outcomes	Follow-up	Baseline age	Number of events	Model	Sensitivity (%)	Specificity (%)	PPV (%)	NPV (%)	Accuracy (%)	AUC
						Learning and Recall Factor (Paired Associates, Memory for text, Activity Recall)						0.72
						TMT-B						0.88
						Identical Pictures Test						0.88
						Activity Recall						0.70
						Memory for text						0.75
						Paired Associates						0.74
Canadian Study of Health and Aging[7]	551	AD	5 years	⩾65	77	age, education, RAVLT Short Delayed Recall, Animal Fluency, WMS Information Subtest	74.0	83.0				0.83
	263	AD	10 years	⩾65	47	age, education, RAVLT Short Delayed Recall	73.0	70.0				0.77
Paquid (French Cohort Study)[8]	2882	dementia	20 years	>65	804	age, ⩾75 years, 4-IADLs, episodic memory subtest (3 years, subjects with low educational level)	85.0	39.0	9.0	97.0		0.75
						age, ⩾75 years, 4-IADLs score, DSST (10 years, subjects with low educational level)	82.0	50.0	41.0	86.0		0.75
						age, ⩾75 years, memory complaints (new simple information), IST, DSST, episodic memory subtest (3 years, subjects with high educational level)	83.0	69.0	11.0	99.0		0.85
						age, ⩾75 years, IST, BVRT, DSST, episodic memory subtest (10 years, subjects with high educational level)	84.0	52.0	28.0	94.0		0.78
The Canadian Study	284	dementia	10 years	⩾65	75	age, education, gender, RAVLT short delay recall, WAIS-R digit symbol:	78	72				0.79

Supplementary Table 2. Characteristic of late life risk models for the general population

Study sample	Sample size	Outcomes	Follow-up	Baseline age	Number of events	Model	Sensitivity (%)	Specificity (%)	PPV (%)	NPV (%)	Accuracy (%)	AUC
of Health and Ageing[9]												
	634	dementia	5 years	⩾65	168	age, education, gender, WMS information, RAVLT short delay recall, Animal fluency, WAIS-R digit symbol	75.0	74.0				0.82
Community dwelling, Massach-usetts[10]	342	dementia	Mean 7.4 years	⩾65	Not stated	CDR-SB adjusted for age, gender and education (Clinician based)						0.78
						CDR-SB adjusted for age, gender and education (Algorithm based)						0.76
German Study on Aging Cognition and Dementia in Primary Care patients (AgeCoDe)[11]	1504	dementia	18 months	⩾75	70	CERAD Word-List Learning	87.8	72.4				0.84
						CERAD Word-List Recall	85.7	62.3				0.84
						CERAD Total Score	85.7	83.1				0.89
						CERAD Total Score 2 (including Constructional Praxis Recall)	89.8	78.8				0.89

Supplementary Table 2. Characteristic of late life risk models for the general population

Study sample	Sample size	Outcomes	Follow-up	Baseline age	Number of events	Model	Sensitivity (%)	Specificity (%)	PPV (%)	NPV (%)	Accuracy (%)	AUC
						CERAD Forward-Selection Mode	88.0	81.6				0.88
						MMSE	87.8	72.1				0.82
Einstein Aging Study (EAS) (all individuals had memory complaints)[12]	854	AD	2-4 years (mean 4.2 years)	⩾70 (mean 78.8)	86	FCSRT-FR 2 years	85.7	73.8	12.8			0.87
						FCSRT-FR 3 years	87.6	70.0	16.9			0.88
						FCSRT-FR 4 years	80.9	81.7	30.0			0.89
						LM-IR 2 years	71.9	71.1	10.0			0.78
						LM-IR 3 years	76.7	68.1	14.4			0.77
						LM-IR 4 years	66.7	72.9	19.5			0.75
						FCSRT-FR adjusted for age, sex, education, race (total sample)						0.85
						FCSRT-FR adjusted for age, sex, education, race, LM-IR (total sample)						0.86
						FCSRT-FR adjusted for age, sex, education, race (subgroup with APOE ε 4 status available)						0.86
						FCSRT-FR adjusted for age, sex, education, race, LM-IR (subgroup with APOE ε 4 status available)						0.87

Supplementary Table 2. Characteristic of late life risk models for the general population

Study sample	Sample size	Outcomes	Follow-up	Baseline age	Number of events	Model	Sensitivity (%)	Specificity (%)	PPV (%)	NPV (%)	Accuracy (%)	AUC
						FCSRT-FR adjusted for age, sex, education, race, LM-IR, APOE ε 4 (subgroup with APOE ε 4 status available)						0.87
Leipzig Longitudinal Study of the Aged (LEILA 75+)[13]	384	dementia	Mean 1.4 years	⩾75	28	CDT	68.0	65.0				0.70
The Leukoaraiosis and Disability (LADIS) Study[14]	480	dementia	3 years	65–84	90	Batteries						
						MMSE	29.0	87.0				0.79
						ADAS-Cog	20.0	84.0				0.79
						VADAS						0.82
						VADAS extension						0.79
						Single tests						
						Trail making (part B – A)		86.0				0.70
						Stroop (part 3 – 2)	62.0	86.0				0.69
						Word immediate recall	71.0	85.0				0.68

Supplementary Table 2. Characteristic of late life risk models for the general population

Study sample	Sample size	Outcomes	Follow-up	Baseline age	Number of events	Model	Sensitivity (%)	Specificity (%)	PPV (%)	NPV (%)	Accuracy (%)	AUC
						Delayed recall	20.0	85.0				0.71
						Word recognition	54.0	85.0				0.69
						Constructional praxis		85.0				0.62
						Ideational praxis	40.0	85.0				0.59
						Naming		84.0				0.56
						Orientation	65.0	84.0				0.70
						Symbol digit	68.0	87.0				0.78
						Digit span	50.0	85.0				0.64
						Digit cancellation	55.0	86.0				0.73
						Maze	58.0	86.0				0.71
						Verbal fluency	45.0	86.0				0.75
African American and Caucasian Primary Care Patients (Geriatric Ambulatory Practice)[15]	194	dementia	Median 2.6 years	Mean 78.3	28	FCSRT-FR						0.81
						FCSRT-TR						0.65

Supplementary Table 2. Characteristic of late life risk models for the general population

Study sample	Sample size	Outcomes	Follow-up	Baseline age	Number of events	Model	Sensitivity (%)	Specificity (%)	PPV (%)	NPV (%)	Accuracy (%)	AUC
Medical Research Council Cognitive Function and Ageing Study (MRC CFAS)[16]	1347	dementia	2 years	Mean 74.7 for no dementia individuals, mean 80.5 for dementia individuals	137	Remote memory	81.0	66.0				0.74
						Recent memory	73.0	71.0				0.72
						Learning memory	63.0	78.0				0.71
						Orientation	91.0	40.0				0.65
						Language comprehension	96.0	16.0				0.63
						Language expression	87.0	42.0				0.65
						Attention and calculation	71.0	58.0				0.67
						Praxis	90.0	34.0				0.68
						Abstraction	64.0	62.0				0.63
						Perception	78.0	53.0				0.65
						CAMCOG total score	72.0	80.0				0.76
						Memory composite score	76.0	77.0				0.77
						Non-memory composite score	65.0	79.0				0.72
Three-City	2099 at three	dementia and AD	3 and 5 years	mean 80 years	90 dementia	FCSRT-FR (dementia, 3 years)						0.85

Supplementary Table 2. Characteristic of late life risk models for the general population

Study sample	Sample size	Outcomes	Follow-up	Baseline age	Number of events	Model	Sensitivity (%)	Specificity (%)	PPV (%)	NPV (%)	Accuracy (%)	AUC
Study[17]	years, 1750 at 5 years				including 57 AD at 3 years follow-up, 173 dementia including 116 AD at 5 years follow-up							
						FCSRT-FR (dementia, 5 years)						0.83
						FCSRT-FR (AD, 3 years)						0.88
						FCSRT-FR (AD, 5 years)						0.83
						residual scores: FCSRT-FR, age, age-squared, sex and education level (dementia, 3 years)						0.82
						residual scores: FCSRT-FR, age, age-squared, sex and education level (dementia, 5 years)						0.81
						residual scores: FCSRT-FR, age, age-squared, sex and education level (AD, 3 years)						0.87
						residual scores: FCSRT-FR, age, age-squared, sex and education level (AD, 5 years)						0.82
						risk scores: FCSRT score, age, sex, education level and the interaction between these three variables and the FCSRT score (dementia, 3 years)						0.89
						risk scores: FCSRT score, age, sex,						0.89

Supplementary Table 2. Characteristic of late life risk models for the general population

Study sample	Sample size	Outcomes	Follow-up	Baseline age	Number of events	Model	Sensitivity (%)	Specificity (%)	PPV (%)	NPV (%)	Accuracy (%)	AUC
						education level and the interaction between these three variables and the FCSRT score (dementia, 5 years)						
						risk scores: FCSRT score, age, sex, education level and the interaction between these three variables and the FCSRT score (AD, 3 years)						0.92
						risk scores: FCSRT score, age, sex, education level and the interaction between these three variables and the FCSRT score (AD, 5 years)						0.89
Ohsaki Cohort 2006 Study[18]	13,974	dementia	5.7 years	≥65 years	1229	The KCL-CF consisted of three yes/no questions: "Do your family or your friends point out your memory loss? (e.g. 'You ask the same question over and over again')"; "Do you make a call by looking up phone numbers?"; "Do you find yourself not knowing today's date?".	60.2	65.1				0.65
	7770 (individuals without mood and anxiety disorders)	dementia	5.7 years	≥65 years		The KCL-CF consisted of three yes/no questions: "Do your family or your friends point out your memory loss? (e.g. 'You ask the same question over and over again')"; "Do you make a call by looking up phone numbers?"; "Do you find yourself not knowing today's date?".						0.63
Gothenburg H70 Study[19]	379	dementia	10 years	70	58	dizziness when suddenly stands up, calf pain when walks ceases when halts, chest pain when excited, chest pain when walking up a hill or fast, second heart sound abnormal, aortic calcification, pulmonary congestion, T-wave abnormalities, arterial fibrillation, sinus						0.75

Supplementary Table 2. Characteristic of late life risk models for the general population

Study sample	Sample size	Outcomes	Follow-up	Baseline age	Number of events	Model	Sensitivity (%)	Specificity (%)	PPV (%)	NPV (%)	Accuracy (%)	AUC
						tachycardia (>100/min), diabetes, hypertension, hypertension currently treated, angina pectoris, BMI (>30), high cholesterol, sex						
	380	dementia	20 years	70	103	Calf pain when walks ceases when halts, chest pain when excited, aortic calcification, pulmonary congestion, defective ventricular conduction, BMI (>30), high cholesterol, sex						0.66
German Study on Aging Cognition and Dementia in Primary Care patients (AgeCoDe)[20]	3055	AD	3 follow-ups at 18 month intervals mean follow-up 3.81	⩾75, mean 80.1	193	age, sex, Subjective Memory Impairment, CERAD verbal fluency, CERAD delayed recall, MMSE, IADL (first cohort)	85.5	63.8	12.0	98.7		0.84
						age, sex, Subjective Memory Impairment, CERAD verbal fluency, CERAD delayed recall, MMSE, IADL (test cohort)	79.6	66.4	14.7	97.8		0.79
						age, sex, Subjective Memory Impairment, CERAD verbal fluency, CERAD delayed recall, MMSE, IADL, APOE4 status (first cohort)						0.85
Vienna TransDa-nube Aging (VITA)	296	AD	60 months	⩾75	65	depressed mood						0.51

Supplementary Table 2. Characteristic of late life risk models for the general population

Study sample	Sample size	Outcomes	Follow-up	Baseline age	Number of events	Model	Sensitivity (%)	Specificity (%)	PPV (%)	NPV (%)	Accuracy (%)	AUC
Study[21]												
						loss of interest	10.4	94.8				0.54
						change of appetite						0.50
						sleep disturbance						0.53
						loss of energy						0.51
						worthlessness						0.50
						concentration difficulty						0.50
						loss of interest, APOE ε 4, folic acid, education						0.63
The Hisayama Study, Japan[22]	523	dementia	17 years	mean 66.8 years	65	age, sex, education, smoking, alcohol intake, systolic blood pressure, use of antihypertensive agents, Glycosylated hemoglobin (HbA1c), serum total cholesterol, BMI, regular exercise						0.68
						Age, sex, education, smoking, alcohol intake, systolic blood pressure, use of antihypertensive agents, Glycosylated hemoglobin (HbA1c), serum total cholesterol, BMI, regular exercise, APOE						0.74
Canadian Study of Health and Aging (CSHA)[23]	7239	dementia and AD	5 and 10 years	⩾65	194 AD, 300 dementia at 5 years, 416 AD, 607 dementia at 10 years	frailty index consisting of 19 deficits not known to predict dementia (AD, 5 years)						0.64

Supplementary Table 2. Characteristic of late life risk models for the general population

Study sample	Sample size	Outcomes	Follow-up	Baseline age	Number of events	Model	Sensitivity (%)	Specificity (%)	PPV (%)	NPV (%)	Accuracy (%)	AUC
						frailty index consisting of 19 deficits not known to predict dementia (AD, 10 years)						0.66
						frailty index consisting of 19 deficits not known to predict dementia (dementia, 5 years)						0.64
						frailty index consisting of 19 deficits not known to predict dementia (dementia, 10 years)						0.66
Framingham Heart Study[24]	2383	dementia	30 years	60 to 88 years	778	age, marital status, BMI, stroke, diabetes, ischemic attacks, and cancer						0.72
The Health Improvement Network[25]	800,013 (Development cohort)	dementia	5 years	60-79 years	6,017	age, sex, deprivation, calendar year, BMI, current anti-hypertensive use, smoking status, hazardous/harmful alcohol drinking, current depression, current aspirin use, and history of diabetes, stroke, TIA and atrial fibrillation						
	130,382 (Development cohort)	dementia	5 years	80-95 years	1,483	age, sex, calendar year, BMI, current anti-hypertensive use, systolic BP, lipid ratio, smoking status, hazardous/harmful alcohol drinking, current depression/anti-depressants, current anxiety/anxiolytics, current aspirin use, current other NSAID use, and history of diabetes, stroke, or TIA and atrial fibrillation						
	226,140 (Validation cohort)	dementia	5 years	60-79 years	1,699	age, sex, deprivation, calendar year, BMI, current anti-hypertensive use, smoking status, hazardous/harmful alcohol drinking, current depression, current aspirin use, and history of	77.7	73.1	2.2	99.8		0.84

Supplementary Table 2. Characteristic of late life risk models for the general population

Study sample	Sample size	Outcomes	Follow-up	Baseline age	Number of events	Model	Sensitivity (%)	Specificity (%)	PPV (%)	NPV (%)	Accuracy (%)	AUC
						diabetes, stroke, TIA and atrial fibrillation (Cut off for high risk = 1%)						
						age, sex, deprivation, calendar year, BMI, current anti-hypertensive use, smoking status, hazardous/harmful alcohol drinking, current depression, current aspirin use, and history of diabetes, stroke, TIA and atrial fibrillation (Cut off for high risk = 2%)	58.4	85.2	2.9	99.6		
						age, sex, deprivation, calendar year, BMI, current anti-hypertensive use, smoking status, hazardous/harmful alcohol drinking, current depression, current aspirin use, and history of diabetes, stroke, TIA and atrial fibrillation (Cut off for high risk = 5%)	19.4	97.0	4.7	99.4		
						age, sex, deprivation, calendar year, BMI, current anti-hypertensive use, smoking status, hazardous/harmful alcohol drinking, current depression, current aspirin use, and history of diabetes, stroke, TIA and atrial fibrillation (Cut off for high risk = 10%)	5.6	99.5	8.2	99.3		
						age, sex, deprivation, calendar year, BMI, current anti-hypertensive use, smoking status, hazardous/harmful alcohol drinking, current depression, current aspirin use, and history of diabetes, stroke, TIA and atrial fibrillation (Cut off for high risk = 20%)	0.7	99.9	10.9	99.3		
	38,084 (Validation cohort)	dementia	5 years	80-95 years	1,923	age, sex, calendar year, BMI, current anti-hypertensive use, systolic BP, lipid ratio, smoking status, hazardous/harmful alcohol drinking, current depression/anti-						0.56

Supplementary Table 2. Characteristic of late life risk models for the general population

Study sample	Sample size	Outcomes	Follow-up	Baseline age	Number of events	Model	Sensitivity (%)	Specificity (%)	PPV (%)	NPV (%)	Accuracy (%)	AUC
						depressants, current anxiety/anxiolytics, current aspirin use, current other NSAID use, and history of diabetes, stroke, or TIA and atrial fibrillation						
Cardiovascular Health Cognition Study[26]	3375	dementia	6 years	⩾65 (mean 76.0)	480	age, education, sex, systolic BP (Cut-off 140mmHg), BMI (Cut-off 30kg/m2), total cholesterol (Cut-off 6.5 mmol/L), physical inactivity (risk score model)						0.77
Cardiovascular Health Cognition Study[27]	3375	dementia	6 years	⩾65 (mean 76.0)	481	age, 3MS, DSST, BMI, APOE ε 4, MRI (WM Disease, Ventricular Enlargement), ultrasound (Internal Carotid Artery Thickening), bypass Surgery, physical performance, alcohol			56.0	90.0		0.81
Canadian Study of Health and Aging[28]	892	dementia and AD	5 years	⩾65 (mean 78.1)	240	3MS, age, informant report of memory problems (at-risk probability cut-off⩾ 0.5) (dementia)	27.0	94.0				0.78
						3MS, age, informant report of memory problems, informant report of family history of dementia (AD)	45.0	89.0				0.81
						Dementia Risk=(100-3MS Score)+(0.25*Age)+10 (if memory problems reported by informant) (Risk Cut-off⩾44)	79.2	56.1				0.77
						Dementia Risk=(100-(MMSE/30*100))+(0.25*Age)+10 (if memory problems reported by informant) (Risk Cut-off⩾44)	72.9	67.7				0.77

Supplementary Table 2. Characteristic of late life risk models for the general population

Study sample	Sample size	Outcomes	Follow-up	Baseline age	Number of events	Model	Sensitivity (%)	Specificity (%)	PPV (%)	NPV (%)	Accuracy (%)	AUC
Vienna TransDanube Aging (VITA) Study[29]	487	AD	within 5 years	75 – 76 (mean 75.8)	30	CERAD Word List Delayed Recall, TMT-A, subjective memory decline, APOE ε 4	82.8	82.4	23.3	98.7		0.91
						CERAD Word List Delayed Recall, TMT-A, APOE ε 4 , memory complaints, time to diagnosis						0.91
						CERAD Word List Delayed Recall, TMT-A, APOE ε 4, memory complaints, IDSR-7						0.80
International Genomics of Alzheimer's Disease (IGAP) Consortia[30]	54,162	AD				APOE ε4, APOE ε2, age, gender, polygenic score based upon 20 genome-wide significant SNP proxies, and polygenic score calculated using SNPs with Alzheimer's disease association P-values <0.5	70.4	70.3	80.9	52.5		0.78
Rotterdam Study[31]	5507	AD	10 years	45-99	359	age, sex						0.79
						age, sex, APOE ε 4 carriership						0.81
						age, sex, APOE ε 4 carriership, CLU, PICALM, BIN1, CR1, ABCA7, MS4A6A, MS4A4E, CD2AP, EPHA1, CD33						0.82
Cardiovascular Health	CHS 2794, FHS	dementia	6 years	71-73 years		age, education, history of stroke, diabetes mellitus, BMI, assistance needed with money or medications, depressive						0.68

Supplementary Table 2. Characteristic of late life risk models for the general population

Study sample	Sample size	Outcomes	Follow-up	Baseline age	Number of events	Model	Sensitivity (%)	Specificity (%)	PPV (%)	NPV (%)	Accuracy (%)	AUC
Study (CHS), Framingham Heart Study (FHS), the Health and Retirement Study (HRS), Sacramento Area Latino Study on Aging (SALSA)[32]	2411, HRS 13,889, SALSA 1125					symptoms (in CHS cohort)						
						age, education, history of stroke, diabetes mellitus, BMI, assistance needed with money or medications, depressive symptoms (in CHS cohort, white)						0.70
						age, education, history of stroke, diabetes mellitus, BMI, assistance needed with money or medications, depressive symptoms (in CHS cohort, black)						0.65
						age, education, history of stroke, diabetes mellitus, BMI, assistance needed with money or medications, depressive symptoms (in FHS cohort)						0.77
						age, education, history of stroke, diabetes mellitus, BMI, assistance needed with						0.76

Supplementary Table 2. Characteristic of late life risk models for the general population

Study sample	Sample size	Outcomes	Follow-up	Baseline age	Number of events	Model	Sensitivity (%)	Specificity (%)	PPV (%)	NPV (%)	Accuracy (%)	AUC
						money or medications, depressive symptoms (in HRS cohort)						
						age, education, history of stroke, diabetes mellitus, BMI, assistance needed with money or medications, depressive symptoms (in HRS cohort, white)						0.75
						age, education, history of stroke, diabetes mellitus, BMI, assistance needed with money or medications, depressive symptoms (in HRS cohort, black)						0.70
						age, education, history of stroke, diabetes mellitus, BMI, assistance needed with money or medications, depressive symptoms (in HRS cohort, latino)						0.71
						age, education, history of stroke, diabetes mellitus, BMI, assistance needed with money or medications, depressive symptoms (in SALSA cohort)						0.78
the Rush Memory and Aging Study (MAP)[33]	903	dementia and AD	Mean 3.5 years	54-100, mean 79.8		age, gender, education, diabetes, traumatic brain injury, cognitive activity, social network and engagement, smoking, alcohol, physical activity (AD)						0.73
						age, gender, education, diabetes, traumatic brain injury, cognitive activity, social network and engagement, smoking, alcohol, physical activity (dementia)						0.72
						age, sex, education, diabetes mellitus, smoking, alcohol (AD)						0.69

Supplementary Table 2. Characteristic of late life risk models for the general population

Study sample	Sample size	Outcomes	Follow-up	Baseline age	Number of events	Model	Sensitivity (%)	Specificity (%)	PPV (%)	NPV (%)	Accuracy (%)	AUC
						age, sex, education, diabetes mellitus, smoking, alcohol (dementia)						0.68
						CAIDE score (age, education, sex, cholesterol, BMI, systolic blood pressure) (AD)						0.49
						CAIDE score (age, education, sex, cholesterol, BMI, systolic blood pressure) (dementia)						0.49
						CAIDE score exclude BMI (AD)						0.54
						CAIDE score exclude BMI (dementia)						0.54
						CAIDE score exclude BMI and cholesterol (AD)						0.55
						CAIDE score exclude BMI and cholesterol (dementia)						0.55
the Kungsholmen Project (KP)	905	dementia and AD	Mean 6.0 years	74-100, mean 81.5		age, gender, education, diabetes, traumatic brain injury, social network and engagement, smoking, alcohol (AD)						0.64
						age, gender, education, diabetes, traumatic brain injury, social network and engagement, smoking, alcohol (dementia)						0.65
						age, sex, education, diabetes mellitus, smoking, alcohol (AD)						0.67
						age, sex, education, diabetes mellitus, smoking, alcohol (dementia)						0.68

Supplementary Table 2. Characteristic of late life risk models for the general population

Study sample	Sample size	Outcomes	Follow-up	Baseline age	Number of events	Model	Sensitivity (%)	Specificity (%)	PPV (%)	NPV (%)	Accuracy (%)	AUC
						CAIDE score (age, education, sex, BMI, systolic blood pressure) (AD)						0.53
						CAIDE score (age, education, sex, BMI, systolic blood pressure) (dementia)						0.54
						CAIDE score exclude BMI (AD)						0.53
						CAIDE score exclude BMI (dementia)						0.54
the Cardiovascular Health Cognition Study (CVHS)	2496	dementia and AD	Median 6.0 years	62-95, mean 72.3		age, gender, education, diabetes, smoking, alcohol, physical activity, fish intake, depression symptoms (AD)						0.74
						age, gender, education, diabetes, smoking, alcohol, physical activity, fish intake, depression symptoms (dementia)						0.73
						age, sex, education, diabetes mellitus, smoking, alcohol (AD)						0.73
						age, sex, education, diabetes mellitus, smoking, alcohol (dementia)						0.72
						CAIDE score (age, education, sex, cholesterol, BMI, systolic blood pressure) (AD)						0.57
						CAIDE score (age, education, sex, cholesterol, BMI, systolic blood pressure) (dementia)						0.57
						CAIDE score exclude BMI (AD)						0.58
						CAIDE score exclude BMI (dementia)						0.59

Supplementary Table 2. Characteristic of late life risk models for the general population

Study sample	Sample size	Outcomes	Follow-up	Baseline age	Number of events	Model	Sensitivity (%)	Specificity (%)	PPV (%)	NPV (%)	Accuracy (%)	AUC
						CAIDE score exclude BMI and cholesterol (AD)						0.58
						CAIDE score exclude BMI and cholesterol (dementia)						0.60
Hispanic Established Populations for the Epidemiologic Study of the Elderly (H-EPESE)[34]	1739	dementia	10 years	⩾65 years	229	age, sex, education, not having friends to count on, not attending community events, diabetes mellitus, feeling the blues, pain, impairment in instrumental activities of daily living, and unable to walk a half-mile	65.0	70.0				0.74
The Three City Study[35]	1721	dementia	mean 7.3 years	⩾65 years	119	age, sex, education, cognition, physical function, lifestyle (smoking, alcohol use), health (cardiovascular disease, diabetes, systolic blood pressure), and the apolipoprotein genotype						0.77
						age, sex, education, cognition, physical function, lifestyle (smoking, alcohol use), health (cardiovascular disease, diabetes, systolic blood pressure), and the apolipoprotein genotype, white matter lesion volume						0.77
						age, sex, education, cognition, physical function, lifestyle (smoking, alcohol use), health (cardiovascular disease, diabetes, systolic blood pressure), and						0.77

Supplementary Table 2. Characteristic of late life risk models for the general population

Study sample	Sample size	Outcomes	Follow-up	Baseline age	Number of events	Model	Sensitivity (%)	Specificity (%)	PPV (%)	NPV (%)	Accuracy (%)	AUC
						the apolipoprotein genotype, brain volume						
						age, sex, education, cognition, physical function, lifestyle (smoking, alcohol use), health (cardiovascular disease, diabetes, systolic blood pressure), and the apolipoprotein genotype, hippocampal volume						0.79
						age, sex, education, cognition, physical function, lifestyle (smoking, alcohol use), health (cardiovascular disease, diabetes, systolic blood pressure), and the apolipoprotein genotype, white matter lesion volume, brain volume, hippocampal volume						0.79
The Personnes Agées QUID (PAQUID) Study[36]	2795	dementia	10 years	⩾65 years	265	age, educational level, forgetfulness in daily living, IST score, DSST score, MMSE score, MMSE-EM score (10-year prediction, discrimination between future demented subjects and all of the other subjects)						0.81
						age, educational level, forgetfulness in daily living, IST score, DSST score, MMSE score, MMSE-EM score (5-year prediction, discrimination between future demented subjects and all of the other subjects)						0.75
						age, educational level, forgetfulness in daily living, IST score, DSST score, MMSE score, MMSE-EM score (10-year prediction, discrimination between future demented subjects and those who survive without dementia)						0.84

Supplementary Table 2. Characteristic of late life risk models for the general population

Study sample	Sample size	Outcomes	Follow-up	Baseline age	Number of events	Model	Sensitivity (%)	Specificity (%)	PPV (%)	NPV (%)	Accuracy (%)	AUC
						age, educational level, forgetfulness in daily living, IST score, DSST score, MMSE score, MMSE-EM score (5-year prediction, discrimination between future demented subjects and those who survive without dementia)						0.82
Innovative Midlife Intervention for Dementia Deterrence project (In-MINDD)[37]	949	dementia	12 years	≥50 years	61	LIBRA score (low/moderate alcohol consumption, coronary heart disease, physical inactivity, renal dysfunction, diabetes, high cholesterol, smoking, obesity, hypertension, mediterranean diet, depression, high cognitive activity, low unsaturated fat intake)						0.60
						LIBRA score, score for education						0.59
						LIBRA score, scores for education, age, sex						0.75
10/66 Dementia Research Group study[38]	1355	dementia	3 years	≥65 years	129	age≥80 years, live in rural area, MCI, diabetes, illiteracy, and 2 or more than 2 neuropsychiatric symptom	72.9	65.1	18.0	95.8		0.75
						age≥80 years, live in rural area, diabetes, illiteracy, and 2 or more than 2 neuropsychiatric symptom	71.3	66.4	18.3	95.7		0.74
						age≥80 years, live in rural area, MCI, diabetes, illiteracy	62.0	71.5	18.6	94.7		0.72
Japan	72,127	dementia	Mean	≥65	6656	Age-sex categories	69.1	66.3				0.73

Supplementary Table 2. Characteristic of late life risk models for the general population

Study sample	Sample size	Outcomes	Follow-up	Baseline age	Number of events	Model	Sensitivity (%)	Specificity (%)	PPV (%)	NPV (%)	Accuracy (%)	AUC
Gerontological Evaluation Study[39]			1205 days	years								
						Age-sex categories and 25 Kihon Checklist Items	70.6	72.7				0.79
						Age-sex categories, 25 Kihon Checklist items, and health checkup items (BMI, hypertension, fasting blood sugar level, HbA1c level)	71.3	71.9				0.79

Abbreviations: 3MS: The Modified Mini-Mental State; 4-IADL: Four instrumental activities of daily living; AD: Alzheimer disease; ADAS: Alzheimer's Disease Assessment Scale; ADAS-Cog: Alzheimer's Disease Assessment Scale-cognitive subscale; BP: blood pressure; BMI: body mass index; BVRT: Benton Visual Retention Test; CAIDE: Cardiovascular Risk Factors, Aging and Dementia Study; CAMCOG: Cambridge Cognitive Examination; CASI: Cognitive Abilities Screening Instrument; CDR-SB: Clinical Dementia Rating sum of boxes; CDT: Clock Drawing Test; CERAD: Consortium to Establish a Registry for Alzheimer's Disease; CVD: Cerebral Vascular Disease; DSST: Digit Symbol Substitution Test; FCSRT-FR: Free recall score from the Free and Cued Selective Reminding Test; FCSRT-TR, Total recall score from the Free and Cued Selective Reminding Test; IADL: instrumental activities of daily living; IDSR-7: Intra-categorical Delayed Selective Reminding Test; IST: Isaacs Set Test; KCL-CF: Kihon Checklist-Cognitive Function; LBD: dementia with Lewy bodies; LIBRA: Lifestyle for Brain Health; LM-IR: Logical Memory I immediate recall; MCI: Mild Cognitive impairment; MMSE: Mini Mental State Examination; MMSE-EM: episodic memory subtest of the MMSE; MRI: magnetic resonance imaging; NSAID: nonsteroidal anti-inflammatory drug; RAVLT: Rey Auditory-Verbal Learning Test; RCI: Reliable Change Indices; SIDAM: screening instrument for cognitive impairment and dementia; TIA: transient ischemic attack; TMT-A: Trail Making Test (Part A); TMT-B, Trail Making Test (Part B); VaD: Vascular Dementia; VADAS: Vascular Dementia Assessment Scale; WAIS-R: The Wechsler Adult Intelligence Scale-Revised; WM Disease: White Matter Disease; WMS: Wechsler Memory Scale.

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